IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S.Patent

Application of:		K. KAZAMA et al.
Serial Number	:	10/750,618
Filed	:	December 31, 2003
For	:	CELLULOSE ESTER FILM AND ITS MANUFACTURING METHOD
Group Art Unit:		1732
Examiner	:	Monica H Huson

DECLARATION UNDER 37 C.F.R. 1.132

Assistant Commissioner For Patents
P.O. Box 1450
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Sir:

I, KENICHI KAZAMA, hereby declare and say as follows:

That I am a post graduate from Tokyo Institute of Technology having been awarded a Masters Degree in Mechanical Physics in March 1988.

That since April 1988, I have been employed by Konica Corporation (present Konica Minolta, Inc.), the owner of the above-identified application. During my employment, I have been engaged in the research and the study of optical films in the Research and Development Laboratory of my company.

That I am a co-inventor of the present application.

That I am familiar with the subject matter of the present invention.

What follows is an accurate summary of experiments conducted according to my detailed instructions and under my personal supervision, and the results obtained therefrom.

Test and test results

Claims 15-21, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michihata et al. (EP 1 033 592).

1. The Examiner states on page 2, line 4 from the bottom to page 3, line 2 of the outstanding Office Action, "Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's residual solvent during his molding method in order to fine-tune his process or adjust final article variables which depend on the residual solvent content."

We disagree with this.

The Examiner states on page 2, lines 7-9 from the bottom of the Office Action, "..., the residual solvent content at the winding step of the cellulose ester film being not more than 2wt% (p0010)." However, the upper limit of the Michihata's residual solvent content, 2wt% is extremely high as compared with that of the claimed residual solvent, 0.05wt%.

In order to demonstrate the unexpected results of the claimed residual solvent, test was carried out, changing the residual solvent of cellulose ester film at the winding step.

Thus, cellulose acetate film samples 2 and 4, each having a dry thickness of 60 μm, were prepared in the same

manner as in EXAMPLE 1 of the Specification. Sample C-1 was prepared in the same manner as cellulose acetate film sample 2, except that the residual solvent of cellulose ester film at the winding step was 0.08wt%. Sample C-2 was prepared in the same manner as cellulose acetate film sample 2, except that the residual solvent of cellulose ester film at the winding step was 1wt%. Sample C-3 was prepared in the same manner as cellulose acetate film sample 2, except that the residual solvent of cellulose ester film at the winding step was 2wt%, the upper limit of the Michihata's residual solvent content.

The elongation percentage of the samples obtained above was measured in the same manner as in Example 1 of the present Specification.

The results are shown in Table I.

Table I

Sample No.	Dry thickness (μm)	Residual solvent content at the winding step (weight %)	Elongation Percentage (%)	Remarks
2	60	0.04	-0.02	Inventive
4	60	0.02	-0.01	Inventive
C-1	60	0.08	-0.05	Comparative
C-2	60	1	-0.52	Comparative
C-3	60	2	-1.13	Comparative

As is apparent from Table I above, inventive cellulose ester film samples 2 and 4 greatly minimize elongation as compared to comparative cellulose ester film samples C-1, C-2 and C-3. Particularly, inventive cellulose ester film sample 2 exhibits elongation which is 25 or more times smaller than that of comparative cellulose ester film samples C-2 and C-3 each having a residual solvent content range falling within that of

Michihata. This shows that the inventive cellulose ester film samples greatly minimize the deformation and greatly improve the film quality. The results are unexpected to one of ordinary skill in the art, and therefore, it would not have been obvious to one of ordinary skill in the art to arrive at the subject matter of claim 15 over Michihata et al. (EP 1 033 592).

2. The Examiner states on page 4, lines 1 to 6 of the outstanding Office Action, "Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's tension range during his molding method in order to fine-tune his process or adjust final article characteristics which change as a result of the tension during processing."

We disagree with this.

Michihata teaches tensioning of not more than 250 N/m, and more preferably 100 to 300 N/m at paragraph 0010. The preferred range 100 to 300 N/m of Michihata teaches away from the range of 10 to 80 N/m of Claim 17. Table 2 of the present Specification demonstrates the unexpected results of the claimed tension range.

For easy comprehension, the results of Samples 8, 9, 17, 22 and 23 of Table 2 are shown in Table II.

Table II

Sample No.	Dry thick-ness (μm)	Trans-port device	Trans-port tension (N/m)	Elongation percentage	Scratches	Re-marks
8	60	1	50	A	A	Inv.
9	60	1	80	B	B	Inv.
17	60	6	20	A	A	Inv.
22	60	1	5	A	D	Comp.
23	60	1	110	F	A	Comp.

Inv.: Invention, Comp.: Comparative

As is apparent from Table II, inventive samples 8, 9 and 17 greatly minimize elongation and minimize scratches as compared to comparative samples 22 and 23. Sample 22 (comparative) produces a lot of scratches on account of too low transport tension such as 5 N/m. Sample 23 (comparative), prepared at a tension falling within the preferred range of Michihata, causes increased elongation on account of too high transport tension.

The results are unexpected to one of ordinary skill in the art, and therefore, it would not have been obvious to one of ordinary skill in the art to arrive at the subject matter of claim 17 over Michihata et al. (EP 1 033 592).

In view of the above, I believe that claims 15 and 17, and all the claims, which depend therefrom, are in condition of allowability.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: August 10, 2007 Kenichi Kazama

KENICHI KAZAMA